

~~IN THE CLAIMS:~~

~~Sub 19~~ (Thrice Amended) A method for parallel simultaneous screening for one or more gene insertion mutants in a population of any organism comprising:
preparing an insertion element mutant library comprising a plurality of nucleic acid insertion elements and insertion element flanking sequences, said insertion element flanking sequences originating from a defined population of an organism wherein said gene insertion mutants are to be detected and wherein said insertion element library is built in a 3D-array of block, row and column pools;
amplifying said insertion element flanking sequences from said insertion element mutant library using at least one primer derived from a sequence of a nucleic acid insertion element of said plurality of nucleic acid insertion elements; and
producing a set of labelled amplification products representing said insertion element flanking sequences derived from said block, row and column pools to use as probes to hybridize to a solid support to which a gene library has been fixed as target(s) for hybridisation, wherein said gene library is organized in at least a two-dimensional array.

D2 22. (Amended) The method according to claim 1 wherein the population is a cell line.